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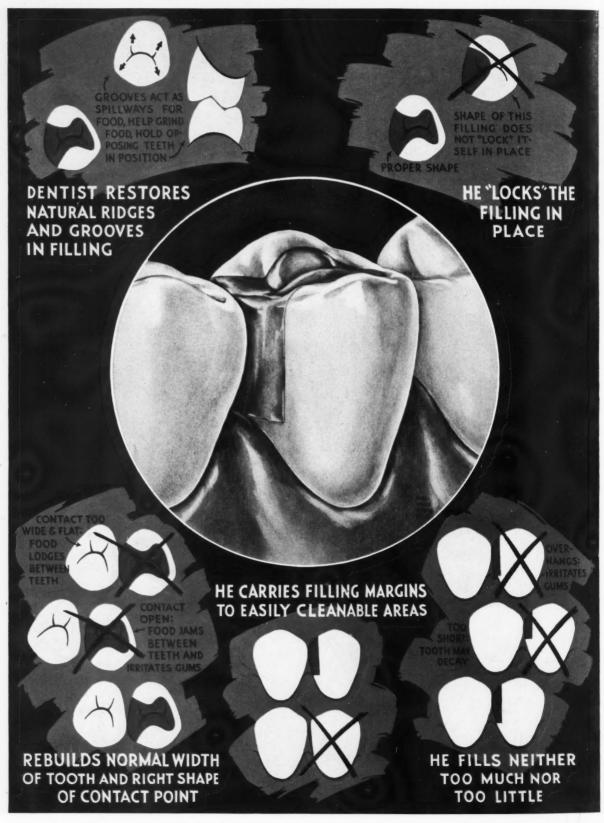
THE DENTAL" DEST



OCTOBER, 1939

VISUAL EDUCATION IN DENTISTRY*

When the Dentist Fills the Tooth



^{*}This is the second chart in the fourth series of charts intended for the use of the dentist in explaining important dental conditions to his patients. The first three series have been published in bound form under the title VISUAL EDUCATION IN DENTISTRY.

About Our CONTRIBUTORS

JOHN H. NESSON, D.M.D. (Harvard Dental School, 1922 and graduate work in periodontia 1932-1933; Suffolk Law School, Boston, 1931) has been engaged in research since 1936 on the relationship between tuberculosis and the mouth. This investigation is being conducted at the Jewish Tuberculosis Sanatorium of New England. Doctor Nesson has contributed to both our magazines, this and ORAL HYGIENE, as well as to several other dental journals. His last publication in this magazine was in December when he wrote on RESTORATIONS WITH PERIODONTAL TREATMENT. His present article offers a new point of view on the retention of the third molar as well as the twenty-two succinct observations on what happens when a missing tooth is not restored. This should prove a valuable adjunct to the DIGEST visual education chart, WHY CONSTRUCT A BRIDGE? for dentists who practice and teach preventive dentistry.

PAUL J. AUFDERHEIDE, D.D.S. (Western Reserve University School of Dentistry) has been in charge of the dental surgery department, City Hospital, Cleveland, and is on the visiting staff of the Lutheran, Charity, and Huron Road hospitals. His practice is devoted to extraction and oral surgery. Doctor Aufderheide wrote for this magazine in January, 1935: SURGICAL CLOSURE OF AN EPITHELIALIZED OPENING. Now as always, AN EMERGENCY BANDAGE FOR FRACTURES OF THE MANDIBLE is timely information.

CHARLES ERNEST SUMMY, D.D.S. (Creighton University College of Dentistry, 1908; graduate work at the College of Dentistry, State University of Iowa, 1929-1930) is the inventor of the patented expanding and asbestos rings described in this issue but these rings have not yet been made commercially available. Doctor Summy practices general dentistry.

N. E. UELMEN, D.D.S. and GILBERT V. KING, D.D.S., are graduates of Marquette University School of Dentistry of the years 1911 and 1928 respectively. Both authors of Esthetics for Three-Quarter Crowns in this issue are general practitioners with a talent for refining and improving everyday techniques. Thus THE DIGEST can offer another of its compressed clinics on paper as it has done repeatedly through the years.

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Vol. 45, No. 10. Monthly, Dental Digest, Inc., 1005 Liberty Avenue, Pittsburgh, Pa. Subscription \$2.00 a year, U. S. Entered as second-class matter, October 3, 1933, at the post office at Ashland, Ohio, under the act of March 3, 1879.

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Katherine F. Lenroot, "The Place of Dental Hygiene in a National and Child Health Program," Journal of American Dental Association, February, 1939, p. 263.



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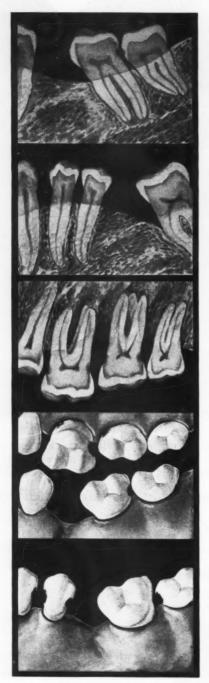


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The Unreplaced Tooth: Its Relation to Periodontal and Dental Health

JOHN H. NESSON, D.M.D., Boston



Figures 1-5, inclusive

A CAREFUL EXAMINATION of the mouths of dental patients who present themselves for treatment discloses an appalling number of missing teeth which were extracted, but not restored. This neglect is often due to the patient's financial inability or reluctance to permit replacement of the lost teeth. In some instances, patients as well as dentists feel that it is unimportant to replace an extracted posterior tooth because "it does not show." It is almost incomprehensible that dentists should still fail to advise patients of the importance of replacing missing teeth.

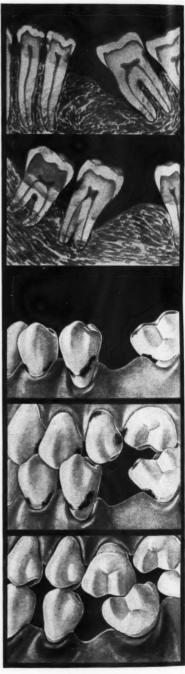
A careful analysis of the many conditions that may result from the non-replacement of one or more missing teeth discloses numerous abnormal, pathologic, and unesthetic results which should impress dentists with the necessity of advocating early replacement of such teeth shortly after their loss.

It is known that among its more important functions, a tooth serves to maintain: (1) the mesio-distal and occlusal relations; (2) the harmony of its adjacent and occluding teeth; (3) the coordination of the masticatory machine as a unit; (4) the contiguity of the dental arch, and (5) the maintenance of normal facial expression through normal vertical dimensions.

Results of Missing Lower First Molar.

The loss of a lower first molar that

Figs. 1 through 22 represent composite drawings made by THE DENTAL DIGEST staff artist from roentgenograms, photographs, and study models of practical cases taken from the author's collection of many years' accumulation. It was felt that uniform drawings would exemplify more specifically than the actual records the typical conditions described in the article. The illustrations are referred to in the text of the article at their appropriate points of description.—The Editors.



Figures 6-10, inclusive

has not been replaced may well serve as an example of what may happen to the other teeth, the periodontal tissues, and to the bone structure in the mouth of an adult. The following conditions may result:

1. Mesial and downward tipping of the lower second molar (Figs. 1, 2, 6, 9, 7, and 15).

2. Distal migration with frequent retroversion of the lower second bicuspid (Figs. 2, 5, 6, 10, and 11).

3. Extrusion of the upper first molar and formation of a periodontal pocket resulting from lack of occlusal, contact (Figs. 3, 4, 9, 10, 14, 15, 16, 18, 21, and 22).

4. Caries formation on the distal surface of the upper first molar and lower second molar from resultant food packs (Figs. 1, 3, 4, 6, 7, 9, 18, and 22).

5. Caries formation on the distal surfaces of lower first and second bicuspids and the mesial surfaces of the second bicuspid and third molar, the result of loss of interproximal contact and consequent food pack formation (Figs. 5, 8, and 9).

6. Formation of a V-shaped periodontal pocket at the mesial-gingival crevice of the lower second molar. This pocket may increase in size and shape until it extends to the apex of the mesial root and the tooth is lost because of periodontal disease (Figs. 1, 2, 6, 7, 9, 10, 11, 12, 15, and 22).

7. Mesial drifting and lingual tipping of the lower second molar, forming a food pack between itself and the third molar owing to loss of contact. The end-result is the formation of a deep periodontal pocket which may necessitate extraction of the second molar, and possibly the third molar (Figs. 1, 4, 5, 6, 7, and 22).

8. Formation of cervical caries about the remaining lower teeth on the same side because food retention areas are formed and traumatic occlusion results from loss of occlusal equilibrium (Figs. 5, 8, 9, and 15).

9. Formation of cervical and interproximal caries on upper teeth of the same side on which the first molar is missing. This is due to loss of normal alinement and resultant traumatic occlusion (Figs. 3, 4, 9, 15, and 20).

10. Traumatic occlusion from endto-end contact of cusps riding on opposing cusps in place of normal interdigitation of the teeth (Figs. 9, 10, 12, and 15).

11. Migration of remaining lower teeth on the same side where tooth is missing with formation of periodontal pockets about those teeth (Figs. 2, 5, 10, 11, 13, and 19).

12. Loss of vertical dimensions of the face due to bite closure with resultant changes in the temporomandibular articulation (Figs. 12, 13, 19, 20 and 21).

13. Increased calculus formation about the teeth due to drifting (Figs. 13, 19, and 20).

14. Buccal tilting of upper first molar, denuding the palatal root through recession and alveolar resorption, resulting in its early loss, even though the buccal gingiva is in healthy condition (Figs. 3, 4, 10, 14, and 15).

15. Unopposed upper tooth is forced into buccal alinement by the tongue (Fig. 15).

16. Unopposed lower tooth is forced lingually by the cheek muscles (Fig. 16).

17. Buccal tipping of the upper first molar and other anterior teeth interferes with proper brushing of teeth distally, and optimum oral hygiene cannot be maintained (Fig. 17).

18. Denudation of approximal bifurcations and trifurcations of upper molars due to food impaction with resultant early loss of upper molars (Figs. 3, 14, 15, 18, and 22).

19. Distal drifting of bicuspids results in spreading of anterior teeth, causing traumatic occlusion, formation of periodontal pockets, and lateral mobility; also results in unesthetic arrangement of the teeth, protrusion of upper lip, lisping, and unhealthy tongue habits (Figs. 13 and 19).

20. Depression of muscles of the cheek into the space formerly occupied by a first molar may cause irritation and biting of cheek during mastication, or grinding of the teeth may take place during sleep. In an unclean mouth of a heavy smoker, the loss of the lower first molar may result in malignancy (Fig. 20).

21. Elongation of the upper first molar due to loss of the lower first molar may progress to a point where the teeth may lock in occlusion, preventing lateral or anterior excursions of the mandible (Fig. 21).

22. Deep pockets resulting from food packs and migration of teeth form ideal incubation zones for Vincent's infection (Figs. 3, 6, 7, 11, 13, 18, 20 and 22).

Changes in the Alveolar Process

Along with the gross changes that are so evident as the mouth is examined there are numerous roent-genologic and microscopic changes that take place in the soft tissues and bone. The changes that occur in tooth arrangement vary with the individual type of bone. Various types of bone atrophy may occur. In dense bone of the simplex type, changes may occur slowly over a long period, whereas in the atrophic type, consisting of weak bone structure, the changes take place more rapidly.

As a result of tooth migration there occurs a process of building up of bone as well as destruction of bone. Hyperplasia, or the building up of bone may result from pressure, commonly seen mesially at lower second molars to withstand added pressure when the first molar has been extracted (Fig. 1). During tooth movement, bone is destroyed in the direction of the force and is repaired distally.

The destructive types of bone atrophy resulting from the failure to replace missing teeth may be classified as follows:

1. Pressure atrophy, either lateral or occlusal, the result of tooth migration.

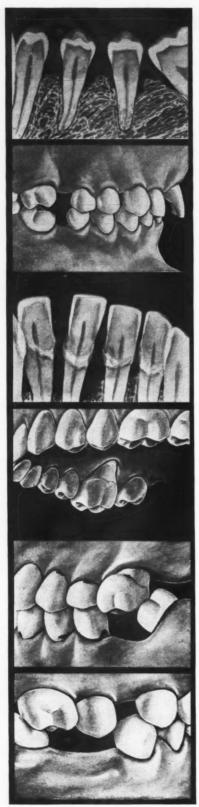
2. Infective atrophy, which accounts for the loss of so many teeth through periodontal infection of the inflammatory type.

3. Disuse atrophy, commonly seen about teeth lacking occlusion. When bone lacks function, the bone cells atrophy and turn into connective tissue and fat cells which hastens the premature loss of such teeth.

4. Dysfunction atrophy, usually seen about migrating teeth from which the support of adjacent teeth has been lost, subjecting them to abnormal function.

The Third Molar

Probably the most misunderstood and abused tooth in the mouth is the third molar. Because this tooth has been responsible for so many dental



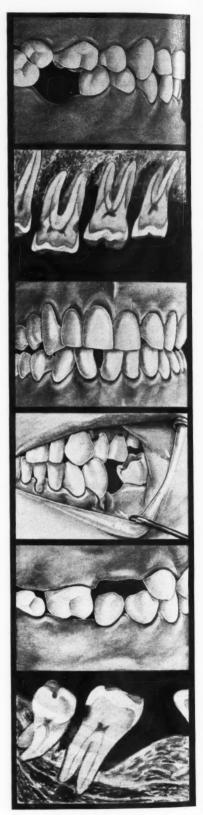
Figures 11-16, inclusive

ills, the dental profession has assumed a skeptical attitude toward its retention. I am not unmindful of the numerous dental disturbances caused by third molars, running the gamut of malposition, decalcification and rapid decay, and impaction, with their resultant evils; nevertheless, there are many instances in which the effort to save a third molar will benefit the mouth and the patient. Third molars should be treated conservatively, not with indifference, particularly because they cannot be replaced. Their retention is often the determining factor as to whether or not that particular mouth will retain its full capacity to function properly.

The loss of a lower third molar leaves the upper third molar without an opponent and permits its elongation. As it extrudes from its socket, a deep food pack is formed between the upper third molar and the upper second molar. This results in interproximal caries on both teeth and the development of periodontal disease which may destroy both teeth. This may in turn result in gingival recession, exposure of the root surfaces, and denudation of the approximal bifurcations of both molars. If such an upper third molar must be extracted, the distal root surface of the second molar is usually found to be so weakened by periodontal disease as to necessitate its extraction shortly thereafter. Such conditions are not infrequently found in mouths that have the full complement of remaining teeth, making it extremely difficult to replace the second and third upper molars. If they are not replaced, the lower molars are left without opponents and soon begin to extrude from their sockets, and the upper teeth begin to separate. Thus complications may result from the loss of one third molar.

Traumatic Occlusions

Although few mouths are free from traumatic occlusion, most teeth can withstand a reasonable amount of traumatic action, depending on the normal conditions that prevail in an individual mouth. But when teeth are lost and unreplaced, the remaining teeth are burdened with an additional traumatic force which results in periodontal and pulpal disease. For



Figures 17-22, inclusive

a long time it has been apparent to me that the pulps of carious teeth which are in traumatic occlusion continue to give evidence of hyperemia even after the caries has been removed and the tooth restored by conservative methods. Such teeth continue to ache and are sensitive to heat and cold without an apparent explanation until the traumatic occlusion is corrected. I have noticed this particularly in a large series of deeply carious teeth in which the pulp was in danger of exposure.

One of the most serious consequences of the failure to replace a missing tooth may be observed around a lower central incisor that has drifted from its normal position in the median line where it comes in contact with the mesial marginal ridge of its opposing upper central incisor. As a result of not replacing missing posterior teeth, the teeth anterior to the missing teeth drift distally and the lower central incisor shifts its position until it is at the median line in contact with the mesial marginal ridges of both upper central incisors (Fig. 19). In the protrusive bite it lies in contact with the incisal surface of both upper centrals. The additional traumatic injury resulting from this abnormal relationship often destroys a great deal of the alveolar bone supporting the lower incisal root, and not infrequently causes hyperemia and devitalization of the pulp. The additional occlusal and traumatic strain forced on this tooth, not only during incising and mastication, but in lateral excursions over the mesial marginal ridges of the upper centrals is too great a burden for the maintenance of a healthy condition around a lower central incisor.

The greatest harm resulting from traumatic occlusion takes place when

trauma is exerted in a lateral direction, particularly in those cases in which extracted teeth have not been replaced, with resultant drifting of the adjacent teeth. In such cases the alveolar bone is absorbed in the direction of the force. If this condition is recognized and remedied in its early stages, the loss of bone can be compensated by new deposition of bone and cementum, and the attachment of the tooth on the side of pressure will be regenerated. If, however, the condition has persisted for a considerable length of time, the periodontal space increasingly assumes a V-shape, and more and more bone is absorbed until the transeptal fibers in the fibrous periodontal membrane are obliterated and replaced by loose connective tissue. The support of the tooth is destroyed; the tooth becomes mobile, and extraction, which becomes necessary, is readily accom-

Vertical Relations

When a patient is edentulous, the loss of vertical facial relations is pronounced. When a patient loses one or more posterior teeth, a gradual closure of the bite with diminishing vertical relations is instituted. This process is often slow and not readily detected until considerable injury has taken place. As the bite closes, the anterior teeth are driven together. The lower anterior teeth shift lingually and distally, and the upper anterior teeth are forced outward and separate and become loose (Fig. 12). The upper bicuspids may become intruded and rotate and the pericementum about these teeth disintegrates. The temporomandibular joint and its adjacent structures often undergo changes that produce symptoms varying from facial neuralgia to crepitus to deafness.

Summary

Failure to replace a missing tooth inevitably produces some or all of the following conditions:

- 1. Destruction of the contiguity of the dental arch, the harmony of the facial structures, and the coordination of the masticatory machine as a unit.
- A cycle of destructive changes in the periodental tissues and tooth structure.
- 3. Traumatic occlusion, resulting from drifting of teeth because of space created by the missing tooth. Traumatic occlusion causes in turn not only serious periodontal disease but also hyperemia and degenerative changes in the dental pulp, and these conditions may result in the premature loss of the teeth affected.
- 4. Serious pathologic change of periodontal tissues as well as dental caries, both of which might have been prevented.
- 5. Changes in the temporomandibular relations and closure of the bite: irritations to the tongue, lips and cheek muscles which may lead to malignancy.
- 6. The eventual loss of the remaining molars on the same side of the face where a third molar has been lost. Third molars should be treated more conservatively in order to retain them.

Conclusion

A study of the many abnormal, pathologic, and unesthetic results from failure to replace a missing tooth demonstrates that it is important and advisable to replace missing teeth shortly following their loss.

120 Boylston Street.









An Emergency Bandage for Fractures of the Mandible

PAUL J. AUFDERHEIDE, D.D.S. Cleveland

A CORRECT EMERGENCY bandage for a fractured mandible is one that gives support in a manner that will keep the patient comfortable until stabilization with interdental wiring and splints or other means is advisable. This is best accomplished by supporting the chin from below only, with a straight upward pull as shown in the accompanying illustrations (Figs. 3 through 7).

Suitable material for this bandage is available under most circumstances: a piece of muslin, $2\frac{1}{2}$ inches wide and 6 feet long, is adequate; or, regular stock bandage of the same width but used double will serve. If the patient is in a hospital, a uterus pack, either 2 or 3 yards long, is especially efficient.

The bandage recommended here is for emergency purposes and is not advised to replace interdental wiring, splints, or headgear and chin-strap attachments for regular stabilization.

946 Rose Building.

Fig. 1—Incorrect bandage for fracture of mandible at second bicuspid region on each side. When edema takes place the mandible is pushed posteriorly not only causing discomfort and pain but displacing the fragments further. There is also a tendency to spread the edema because of the boxing-in of the mandible with the bandage.

Fig. 2—Same case as shown in Fig. 1. Note downward and backward displacement of anterior fragment. Upper and lower molars are touching and anterior teeth are three fourths of an inch apart.

Fig. 3—First step of correct bandage. Middle of bandage is placed under chin.

Fig. 4-A single knot is tied on top of head.

Fig. 5—Anterior loop of knot is gradually moved toward forehead and posterior knot is moved toward a position over external occipital protuberance.







Fig. 6—Anterior and posterior loops of knot in position.

Fig. 7—Ends are brought together on top of head and a knot is tied. A pad of gauze may be placed between the knot and the scalp if the knot is uncomfortable. Note straight, upward support of mandible, as if it were in a sling. There is no possibility of posterior pressure. Bandage may be adjusted at any time if it slips or loosens.

Casting with an Expanding Investment Holder

C. E. SUMMY, D.D.S., Paullina, Iowa

IN MAKING GOLD inlays the problem is to obtain sufficient expansion of investments to compensate for shrinkage of gold on cooling and the shrinkage of inlay waxes at different temperatures. When the expansion needed is obtained, it must be equal in all directions. In the library of the American Dental Association in Chicago can be found everything that has ever been written on this subject. Most writers still advocate the use of the metal inlay ring. A few operators have dispensed with it by using special casting machines, wire screens, or coatings of material to harden the investment. A few authorities object to the use of the old metal ring if perfection is sought. Van Horn1 says, "The flask in which the investment is contained should have either a coefficient of thermal expansion equal to the expansion of the investment, or

Van Horn, C. S.: Compensation Casting Technics, Materials, Appliances, and Data, J. A. D. A. 20:219 (February) 1933.

should have a flexible construction which will not unduly resist a uniform movement of investment." Rice² pointed out, as early as 1931, that there is ring resistance.

The manufacturers have produced investments which, when properly handled, will expand sufficiently to compensate for the shrinkages encountered; nevertheless, most dentists use the old metal ring whose coefficient of thermal expansion is not equal to the expansion of the investment used, nor is this expansion equal in all directions. There is an unrestrained expansion longitudinally, or toward the ends of the ring, but laterally there is little expansion; thus it is necessary to guess at this expansion.

Dentists place a piece of asbestos paper soaked in water inside the ring. Some guess one strip, some guess ²Rice, W. S.: Dimensional Dental Casting. J. A. D. A. 18:1280 (July) 1931.

more. I believe the time has arrived when it is no longer necessary to resort to guessing. I have devised a dental inlay ring, flask, or holder that does have a flexible construction; one whose coefficient of expansion is exactly equal to the expansion of the investment used. This is as simple to use as the old metal ring.

Some manufacturers have compounded investment, so that expansion is controlled by the powderwater ratio, so many grams of powder to so many milliliters of water. Some use control powders, decreasing or increasing their amounts according to the temperature of the laboratory. Regardless of the theory employed, the old metal ring is used in these methods

Thick mixes make more expansion than thin mixes

Investments have been carefully compounded to give certain and definite results if the powder-water ratio



Fig. 1



Fig. 2

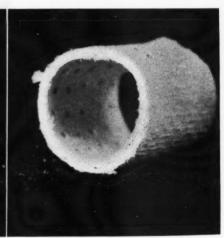


Fig. 3

Fig. 1—With the sprue well attached to the wax pattern at the point of greatest bulk, attach the sprue and pattern to the sprue-former with sticky wax or inlay wax. Weigh the correct amount of preferred investment and the correct amount of water, and make a thinner mix than usual. Spatulate the mix thoroughly and with a moistened camel's hair brush, dip into the mix and paint the pattern well.

Be extremely careful to see that no air bubbles have been trapped on the wax pattern. The success of the finished inlay depends greatly on the care taken in painting the pattern. Fig. 2—Expanding investment holder. The base ring will fit most casting machines and the upright rods become a part of the investment. When the investment expands from high heat, these rods give with this expansion.

Fig. 3—An asbestos ring. This ring is made up of layers of absorbent asbestos paper. One end is ventilated or perforated, and when the investment is worked into the ring, the moisture enters these perforations carrying the investment with it. The asbestos paper becomes a part of the investment.

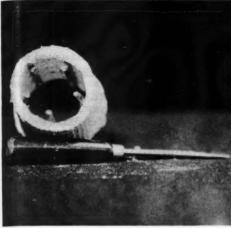






Fig. 4

Fig. 4—Ring and holder assembled.
Fig. 5—Parts shown in Figs. 1, 2, 3, and 4, assembled. A strip of one-fourth inch adhesive tape about three inches long placed over the bottom of the sprue-former and carried up the sides of the ring holds the assembled parts in one piece which can be handled easily. Fig. 6—Investment being worked in the assembly in Fig. 5. This

Fig. 5

Fig. 6

can be done in various ways. It can be gently vibrated in; or it can be worked in with a camel's hair brush. One's usual method of filling the metal ring will no doubt work in this case.

A thin mix was advised. The reason is now plain. This absorbent asbestos ring will take up the moisture from the mix quickly and it is well not to loiter at this point of the work.

is followed; nevertheless, after this definite ratio is arrived at, the ratio is immediately thrown out of balance by adding water to soak the liner that

is placed in the metal ring. In many cases the water content is increased more than the difference between a thick mix with maximum expansion

and a thin mix with minimum expansion. This is one reason why it would be well to dispense with the wet asbestos liner.

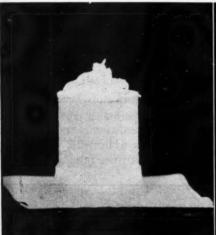


Fig. 7



Fig. 8



Fig. 9

Fig. 7—Assembly filled and well filled. Because this absorbent ring is going to take up from one-fourth to one-fifth the water used, the investment will settle. If the assembly is not over-filled, a sunken place will appear in the center of the ring.

More investment has been used in this assembly than in other

techniques; also a thinner mix has been used which makes the investment work easily and smoothly. The investment, however, is denser than can be made any other way unless a centrifuge investment machine is used.

ment machine is used.

I have used such a machine especially equipped, and with the assembly described, I have produced some smooth inlays. I have also tried some machines of the vibrator type and have found that they work well. There is no reason why the assembly described here cannot give: (1) equal expansion in all directions; (2) a denser investment; (3) no burned-up metal ring; (4) quick heating and quick drying and (5) a completed inlay in from twenty-five to

forty minutes, depending on the investment and the heating capacity of the furnace.

Fig. 8—Holder ready for the wax eliminator or furnace. Outer layers of ring have been removed to show how first layer becomes a part of investment, which in some of the softer types of investments keeps them from cracking under high heat.

I always burn-out the wax with the sprue-hole pointed downward, as I believe I get sharper margins this way.

Investment shown here can be thrown around without the least danger of breakage. I have used every available investment, and they all work as well as they did with the metal ring without its

objectionable features.

Fig. 9—Cross-section of Fig. 8. A steel saw was used to make this cross-section. It shows the wax pattern in the approximate center where expansion would be equal in all directions.

Classification of Inlays

Inlays may be divided into three classes: (1) overlays; (2) compound; and (3) simple.

Overlays include crowns, large M-O-D inlays, and three-quarter crowns. For these I use a double mix with most investments, dusting on the dry investment until all moisture is absorbed, unless the manufacturer says otherwise; then I follow his directions. When the case is heated to a

bright red as seen through the spruehole, casting is done.

Compound inlays require the manufacturer's thin mix, and should appear red through the sprue-hole.

Simple inlays call for a thin mix, and should appear dull red through the sprue-hole.

Comments

I believe any dentist who will conscientiously try this method a few times will be agreeably surprised with the results.

A poor wax pattern never produced a good inlay. A poorly invested good pattern never produced a good inlay. Good inlays are only produced from good patterns, from carefully mixed investments—carefully applied to eliminate air bubbles, distorted patterns, and broken margins.

NOTICE

WE CAN USE a limited number of copies of the January, February, March, May, June, and July, 1939, issues of The Dental Digest. We will accept these issues and, in exchange, will extend any present subscriber's subscription one month for each of the above mentioned issues sent to us. Write us before sending the copies please. Address your letter to R. C. Ketterer, Publication Manager, The Dental Digest, 1005 Liberty Avenue, Pittsburgh, Pennsylvania.

UNSOLICITED MANUSCRIPTS

FROM TIME TO time THE DENTAL DIGEST receives inquiries regarding its attitude toward unsolicited manuscripts. These are especially welcome. There are many excellent dentists who have original suggestions, who have improved or modified a technique or have refined an operation; but these men do not contribute to the literature because they are afraid they do not know how to "write." Dentists are not expected to be "writers." If they will tell their story in a straightforward manner, the editors will be happy to cooperate with them in presenting their story. Unsolicited material that is sent to The Dental Digest is read with care and open-mindedness and is reported on promptly.

Announcement of Books Received

NITROUS OXIDE-OXYGEN ANESTHESIA, By F. W. Clement, M.D.; Illustrated with 70 Engravings; Philadelphia, Lea & Febiger, 1939. Price: \$4.00.

CLINICAL PATHOLOGY AND TREATMENT OF THE DENTAL PULP AND PERIODONTAL TISSUES, By Edgar D. Coolidge, B.S., M.S., D.D.S.; Illustrated with 289 Engravings; Philadelphia, Lea & Febiger, 1939. Price: \$6.50.

THE DENTIST FACES HIS FUTURE, By George Wood Clapp, D.D.S.; New York, The Educational Division. The Dentists' Supply Company, 1939. Price: \$1.00.

The Editors Page

WHEN PEOPLE ARE faced with losing their natural teeth, they frequently experience profound psychologic trauma. The transition from natural dentition to dentures represents phenomena that are often taken too casually by us dentists. Although patients seldom express their innermost feelings when they are passing from their natural teeth to dentures, we can be sure that many of them undergo psychologic upheavals and stresses of magnitude. In the case of a woman this change may represent to her a tangible and real and unalterable expression of the aging process—one that cannot be disguised by make-up or by well-cut clothing. To men, this experience of losing their natural teeth frequently symbolizes the end of virility and vigorousness and the beginning of old age.

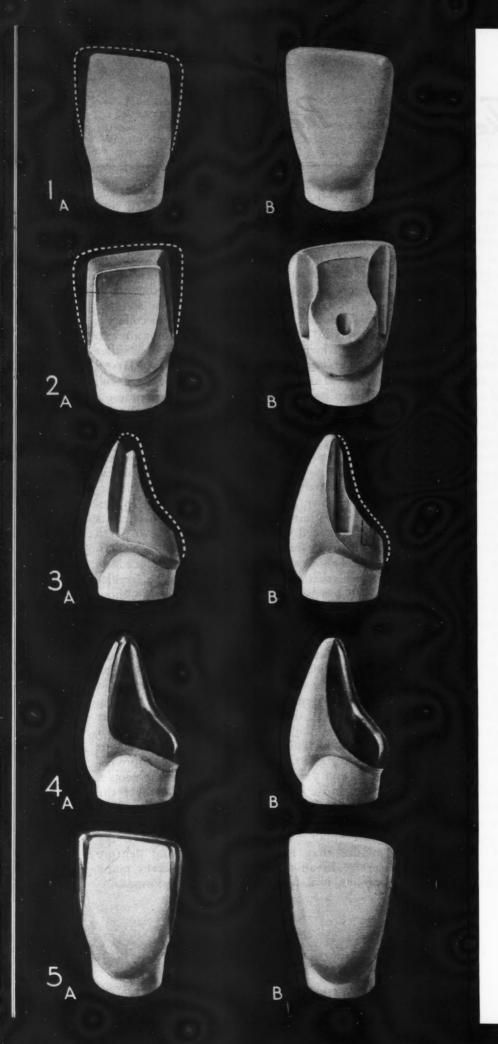
We are all aware that the construction of dentures is more than a mechanical procedure; that we must not only fit the ridges and the mouth but fit the personality and please the family circle as well. Not many years ago the loss of the natural teeth was even more complicated because it was an experience that could not be hidden except by a retreat into complete solitude. In the days when people were compelled to go six weeks or more after extraction in their edentulous state, their sunken faces and their blurred words were subjects of pity and occasional ridicule by family and friends. Immediate dentures have satisfied not only functional needs but important psychologic demands. The person who can be tided over from his own dentition to dentures without being seen for a moment by anyone except his dentist in the edentulous stage receives a service that cannot be estimated.

One might at first fear that the placing of immediate dentures upon raw soft tissues, direct upon bleeding areas, would set up reactions; but the clinical fact is that immediate insertion of the full denture acts as a splint, a pressure hemostatic, and a protective of the soft tissues against assault and injury. Rather than having more soreness, patients with immediate dentures seem to have less

soreness than those who have gone through a waiting period of six or eight weeks. The immediate denture appears to act as a matrix in which tissues heal more evenly and smoothly than if they are left unprotected. With the insertion of an immediate denture the patient experiences little difficulty in speech; the tongue does not have a chance to broaden and the cheeks do not have an opportunity to collapse; the vertical dimension of the face is not altered. People who go edentulous for a long time suffer facial collapse both in the vertical and lateral planes. The insertion of the immediate full denture prevents these facial disharmonies.

All alert dentists are reasonably well prepared to perform the professional service of supplying immediate dentures. Not many of us, however, are prepared to present the subject convincingly to the patient. Dentists should explain to patients the reason for and the accomplishments in immediate dentures. In presenting the immediatedenture service to patients who are faced with the loss of their own teeth impress the fact that there is nothing experimental about the immediate denture procedure. It is a tried and accepted professional service which has been provided successfully to thousands of people.

Before the immediate denture service is performed, however, a clear understanding should be had with the patient regarding the nature of the service. It should be clearly understood particularly that the service is transitional and in the form of treatment; that there is nothing final about dentures. Tissue changes under them and they must be remade, rebased, or relined. There is no such thing as a permanent denture. The rate of tissue change is unpredictable and varies greatly with different people. The dentist has little or no control over the tissue change. It is far better to have understandings in advance of treatment—any treatment—than disappointments afterward. Every minute that is spent in explaining denture service in advance of treatment saves many minutes in defense of treatment performed.



Esthetics for Three-Quarter Crowns

N. E. UELMEN, D.D.S. and GILBERT H. KING, D.D.S.,

Milwaukee

Some modifications of the usual three-quarter crown preparation are suggested in the accompanying illustrations of models for the purpose of eliminating the frequent objectionable display of gold at the incisal edge and at the mesial and distal portions of anterior bridge attachments. These modifications will consequently also eliminate the discolored appearance resulting from thinning the tooth at these points.

The following principles are preserved at a minimum loss of tooth structure in the preparations illustrated: (1) a sufficient extension for prevention of decay; (2) adequate protection of the tooth at all points, and (3) a practical amount of retention.

324 East Wisconsin Avenue. 759 North Milwaukee Street.

Figs. 1A, 2A, and 3A—Labial, lingual, and proximal aspects of conventional type of preparation.

Figs. 1B, 2B, and 3B—Labial, lingual, and proximal aspects of modified type. Note absence of incisal groove and presence of cingulum pit retention.

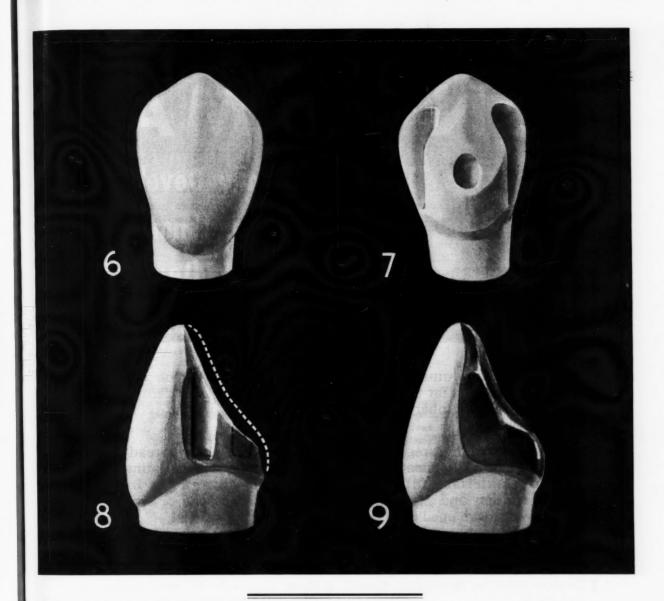
Fig. 4A—Proximal view of conventional type; attachment in position.

Fig. 4B—Proximal view of modified type; attachment in position.

Figs. 5A and 5B—Labial aspect of conventional and modified types, both with attachments in position. Note objectionable display of metal in Fig. 5A.

Figs. 6, 7, and 8—Labial, lingual, and proximal view of a cuspid. Note unmarred incisal edge and the cingulum pit retention.

Fig. 9—Cuspid with attachment in position.



Examination for Appointment in the Dental Corps, Regular Army

An examination for the selection of candidates for appointment in the Dental Corps, Regular Army, will be held during the period February 12-17, 1940, both dates inclusive.

The examination, which will include both physical and professional examinations, the latter consisting of written, oral and clinical tests, is open to male citizens of the United States between the ages of $22\ 9/12$ and $31\ 9/12$ years at the time of the examination, who are graduates of acceptable dental schools and who have had at least $1\ 11/12$ years subsequent practice in their profession.

Candidates who have failed more than one previous examination for appointment in the Dental Corps, Regular Army, will not be permitted to undergo examination again.

Full information and application blanks will be furnished upon request to The Adjutant General, War Department, Washington, D. C. Applications will not be considered after January 27, 1940.

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The Scientifically Developed **Plastic for Rebasing Immediate** and Permanent Dentures

MIXING . NO BOILING . NO WAITING

In addition to its other unusual qualities, the ease with which Konformax is applied has quickly won for it a gratifying acceptance by the dental profession. A rapidly increasing number of dentists now use Konformax exclusively for rebasing dentures.

Konformax is highly regarded because it is (a) always ready, (b) slow setting, (c) long lasting, (d) heat resisting up to 400° , (e) non-irritating, (f) usable on all denture materials, full or partial, (g) non-solvent, (h) inexpensive, (i) produces suction and cushion, (i) contains no acetone or zinc oxide and (k) because it was developed by a prominent practicing dentist.

TECHNIQUE

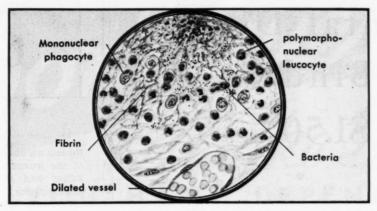
- and dried.
- 9 Wipe with Konformax Cleaner to remove grease and allow to air dry for two or three minutes.
- 3 Rub a thin film of Konformax into surface of denture, using finger to spread. (To remove from finger, dip in Cleaner).
- A Dry thin film with electric fan or air syringe.
- 5 Apply additional Konformax in a thicker layer and spread evenly.

- Denture must be thoroughly cleaned 6 Place in mouth. Be sure denture is seated. Do not use too much pressure or tissue will be compressed.
 - 7 Wipe off excess Konformax with denture in place.
 - 8 Have patient return in day or two. Remove denture. If examination shows wrinkled area, additional Konformax is needed. Wash off saliva with cold water, dry thoroughly with electric fan and apply additional Konformax to areas indicated. Do not use Cleaner when adding Konformax.

Konformax Package, Costing \$4.00 produces ten or more rebasings.

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INFLAMMATION brings a multitude of phagocytes to the site of infection to destroy pathogenic organisms and attempt to check their spread. Bacteria, however, frequently overcome the natural defensive forces and, if the body's resistance is low, may invade the entire system.

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The dentist finds that routine use of SAL HEPATICA helps eliminate one of the common causes of lowered resistance—the waste-laden bowel. By providing FLUID BULK in the intestines, it stimulates gentle peristalsis to quickly flush waste from the colon. The mineral salts

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NOTES ON THE

Ouff

Disease Is Not Funny . . .

No less an authority than the editor of the journalism trade publication Editor and Publisher, Mr. Arthur Robb, spanks the newspapers of the country for their flippant treatment of medical news. There is nothing funny about human disease nor about the efforts of the men who devote their lives to correcting human ailments. Often on a hot day some wiseguy reporter does a malodorous yarn that is supposed to be funny. Mr. Robb chastises his newspaper colleagues with these good words:

"In general, no medical topic [speaking of cancer] is a more ticklish one for doctors and editors alike. It is pleasant to say here that in the past decade the press has handled discussion of cancer conservatively, intelligently, and with sympathy for the sufferers and their potential benefactors. And we were sorry to see the conscientious work of the pathologist, a scientist whose work is of inestimable value to his colleagues, belittled even by the implication of a humorous headline. Pathological research is vital, and it is today routine in all good hospitals, both before and after operations. It isn't humorous reading to the operating surgeon; it is as serious, as accurate, and informative as a mathematical formula to the man who must be guided by it



Fine daily tonic for mouth and throat

Cleansing, stimulating mouthwash and gargle

Don't Guess. F. Dom Make Sure

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Ritter Dental Manufacturing Co., Inc.

Ritter Park

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Magnified eight diameters this pattern shows plainly the outstanding ability of KERR Blue Inlay Casting Wax to faithfully reproduce every detail of cavity preparation.

Preferred by thousands of Dentists for all inlay work, KERR Inlay Casting Wax (Hard) is rigid at body temperature yet softens at only a few degrees higher. It is guaranteed to meet tentative specifications No. 4 of the

American Dental Association. This wax possesses the same excellent working and carving qualities that characterize the famous KERR Blue Inlay Casting Wax (Regular) but the Hard remains slightly more rigid when carving in the mouth.

We commend these KERR Waxes to you as worthy of the name they bear -adequate media for the needs of your professional skill.

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RR BLUE INLAY

STATEMENT OF THE OWNERSHIP, MANAGE-MENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS, OF AUGUST 24, 1912. Of The Dental Digest, published monthly at Pittsburgh, Pa., for October 1, 1939. State of Pennsylvania, County of Allegheny, SS.

ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared M. B. Massol, who, having been duly sworn according to law, deposes and says that he is the Publisher of The Dental Digest, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 411, Postal Laws and Regulations, printed on the reverse side of this form to wit:

1. That the names and addresses of the publisher, editor, publication manager, and business managers are: Editor, E. J. Ryan, B.S., D.D.S., 708 Church Street, Evanston, III, Publisher, M. B. Massol, 1005 Liberty Ave., Pittsburgh, Pa. Publication Manager, R. C. Ketterer, 1005 Liberty Ave., Pittsburgh, Pa.

2. That the owners are: Dental Digest, Inc., 1005 Liberty Ave., Pittsburgh, Pa.: Oral Hygiene, Inc., 1005 Liberty Ave., Pittsburgh, Pa.; M. B. Massol, 1005 Liberty Ave., Pittsburgh, Pa.; Louise

A. Smith, 10 Robin Rd., Pittsburgh, Pa; Lynn A. Smith, 1005 Liberty Ave., Pittsburgh, Pa.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities neer: None.

4. That the two paragraph next above, giving the names of the owners, stockholders, and security holders aff stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affant's full knowledge and belief as to the circumstances and moders of the person of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stocks, bonds, or other securities than as so stated by him.

(Signed) M. B. MASSOL, Publisher.

Sworn to and subscribed before me this 10th day

Sworn to and subscribed before me this 10th day of October, 1939.

(Seal) E. G. Burgdorf. Notary Public. (My commission expires May 11, 1940.)

in his use of the curative steel, drug, or electric current.

"We like silly season yarns as well as any other newspaperman or newspaper reader, but we don't like them when they hold up to laughter the deadly serious work of people who are fighting disease. One story making fun of work that may mean life or death for someone else can undo years of efforts by the doctors to bring their preventive skill into play. So let's keep illness off the funny

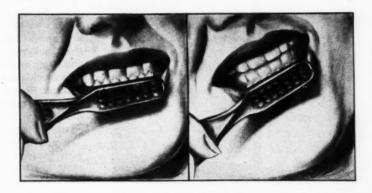
Research Overworked . . .

Sometimes at a dental meeting, I hear some chap puffing and snorting about his "research work" which has led me to wonder exactly what research may be. Is looking in the closet for an old pair of shoes research or is that a form of snooping? Is taking postoperative roentgenograms of an extraction research or is that a form of inquisitiveness? So let's talk a little about what research is and what it is not. To deserve this rather heavy word, work must be of a critical and exhaustive investigative nature. The subject must be one of significance: it must be pursued over a period of time; all the tools and implements available must be employed; accurate recordings must be made; controls must be used in conducting experiments; the results must be integrated with all the other work that has ever been done in the same field.

Research is not having an idea in the middle of the night and writing a paper about it the next morning. (None of the writing in this column, therefore, comes under the title of research.) Research is not concerned with superficial trivia. To try to figure out why the root of a lower bicuspid fractures is not research; to study the entire phenomena of root fractures in thousands of cases over a period of time with anthropologic tools, with chemical equipment, with accurate recordings would perhaps be research. A great deal of the material that is published so ponderously has no practical or clinical bearing in dentistry.

It might be well if, after some statement of alleged fact or interpretation, someone in the audience would have enough courage to raise his voice and say, "So, what?" No one wants to encourage hecklers, to be sure. It would seem, however, that many of the "researchers" should be returned to the

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Adults and children seldom know how to use the tooth brush correctly. It is a good idea to always keep a D.D. Tooth Brush in the office to facilitate instructions on how to brush the teeth and massage the gums. This practical brush was expressly designed, with the aid of 1,000 dentists, for both tooth and gum prophylaxis. "Thank you!" your patients will say to your recommendation of D.D. Tooth Brush.

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less rarefied air of practical life. At this point, we must all be anxious to pay a tribute to the spirit of science and to the scientists in dentistry, because little that is of clinical usefulness is made available to us without true and complete scientific research. The word should be reserved for its exclusive and rightful meaning.

Thumbsucking or What . . . ?

I used to be a lot more sure about many things than I am now, and weren't we all? Once I could go into a vigorous talk on the dangers of thumbsucking. Now I am not so sure and after reading a splendid article by a psychiatrist, I do not know what to think. Here is what Alexander Reid Martin, psychiatrist at the Children's Aid Society of New York, has to say on the subject:

"I am, then, absolutely in accord with those who say that 'civilized' gums, teeth and jaws are not used soon enough, hard enough, or often enough. This is particularly so with children. That this continues to be the case can be attributed to the excessive overprotection of children that is so widely prevalent in our culture. By overprotection I mean strong parental tendencies to pamper and shelter the whole child. These tendencies have nothing whatsoever to do with real love and affection.

"There is one by-product of this general overprotection that is of special interest to us. I refer to the great number of parents who are morbidly concerned about a child putting something in his mouth. Their apprehension usually has no objective basis. There is an incessant verbal and physical checking of the child, even though what goes into the mouth may be absolutely harmless. Apart from depriving the oral zone of needed stimulation, these parental obsessions make the child 'mouthconscious.' I say let the child use his mouth more. Among other things, it is for the child an important organ of investigation. As long as there is no objective danger, let him explore and test and experiment with it. Give him something to use it on.

"... Every infant requires a certain amount of oral gratification or oral play. Frustration of this basic oral need results in serious oral problems. For instance, frustrated thumbsucking may force a child to use his lip or something else as a substitute, or he may suck his thumb more vigorously

"Then he showed me the X-Rays--"

"I never had my teeth x-rayed before last July, and I might not have had it done then if moving to a new city hadn't necessitated our finding a new dentist. I had visited our former dentist regularly, so when I went to the new one I supposed nothing much could be wrong with my teeth.

"Then he showed me the x-rays --

"I don't mind telling you, I was shocked.
Decay had eaten out quite large sections of
what apparently were three perfectly sound
molar teeth. Fortunately, our new dentist
was able to save them. But what really impressed me most was that he said the cavities
(he called them interproximal) could not have
been found without x-ray:

"Believe me, from now on my husband and I are for x-ray:"

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"I tell you, Doctor, these plates don't fit!"

"I can't use them and that's all there is to it. You've got to do something!"

... Such patients are difficult, but they MUST be satisfied. In numbers, they can make or break a dentist's reputation. And they CAN be satisfied, as a rule.

Misfit Causes the Most Grief in Denture Work

Correct adaptation is the chief factor in getting a denture that fits well and does its work properly. And thousands of dentists have learned how to get that correct adaptation by using Dr. Kelly's Impression Paste.

"Kelly's Paste" comes in handy tube form, is easily applied to a snap impression, old denture or waxed-up case. It flows into every tiny irregularity of the soft mouth tissues, registering each one in detail. And the resulting impression will last, without distortion, through to the final flasking.

Why not largely avoid the grief of misfit by using this tried and proved corrective medium?



Your satisfaction is guaranteed when you order Dr. Kelly's Impression Paste (package \$2.50 at dealers). If, after a real trial, you are not highly pleased with the results, simply return the package for full credit. The fact that this absolute guarantee has stood for more than six years with practically no returns speaks for itself. Kelly-Burroughs Laboratory, Inc., 143 N. Wabash Ave., Chicago, Ill.

Dr. KELLY'S Impression Paste

For full information with suggested technics, send coupon, page 398. when unobserved, or the habit may be prolonged, thereby causing malformation and injury. He may become a biter. There are some who say that oral frustration affects the entire personality. We should learn to let nature alone in this regard, and educate parents to be more understanding, and to accept oral play and oral investigation as important functions of early life.

"The infant associates with his mouth his first contacts with his mother and other human beings, his first satisfactions and pleasures, and his first hungers and frustrations. The mouth becomes, you might say, overloaded with meaning-it is a zone of primary importance. In an atmosphere of parental apprehension and oversolicitation where oral needs have been frustrated, and where overprotection has led to general softness and unpreparedness, primary dentition is apt to be difficult. If so, then sustained discomfort and pain become associated with the mouth for the first time. I am of the opinion that pain related to the oral zone in the first years of life is felt by the baby as a threat to his most important source of pleasure. The effects of this are far-reaching and condition the child to over-react to any subsequent oral experience; for example, to his relationship with the dentist."

When we try to answer mothers' questions regarding thumbsucking, I suppose we have to answer the question by asking one: "Which would you rather have—a distorted face or a distorted psyche? Which would you rather have—a malocclusion or a neurosis?" Any mother would say that she doesn't want the child to have either. So we reach an impasse.

—E. J. R.

NO LONGER WITH THE DENTAL DIGEST

S. Lichtig, formerly associated with the circulation department of The Dental Digest, is no longer connected with this publication.



BUFFALO DENTAL MFG. CO.

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Modern Equipment
for
Modern Dentistry

The new 5¼ inch Lewis Crossbar is an up-to-date vulcanizer for today's and tomorrow's denture work.

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Smooth streamlining lends grace to massive construction. Buffalo quality is present throughout, yet this new vulcanizer is priced lower than the smaller model that it supersedes.

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may complicate oral disease

An unpleasant breath does not always mean oral disease, but may originate from constipation. When intestinal stasis is neglected, it may unfavorably influence oral health. Therein lies the interest of dentistry in bowel regularity.

For a dependable evacuant, dentists may confidently recommend AGAROL, the original mineral oil and agar-agar emulsion with phenolphthalein.

It not only lubricates the intestinal tract, mixes thoroughly with its contents to keep them soft and pliable, but also gently stimulates the peristaltic function to renewed vigor and activity. Because of its exceptional palatability and freedom from oily taste, patients like Agarol.

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and breaks up highlights. Oral structures are vividly illuminated in their natural colors. Soft penetrating light that is glareless to you and the patient... the same kind as provided by the newest surgical lights. The only light that is back out of the way—40" from the patient. "Tru-Vision" is the light for quicker and better precision work. Write for "Vision in Dentistry".

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DENTAL MEETING

 \mathcal{Q}_{ates}

American Society for the Advancement of General Anesthesia in Dentistry, regular meeting, October 19, Midston House, 38th Street and Madison Avenue, New York City.

District of Columbia Dental Society, second and fourth Tuesdays in each month from October to June, United States Public Health Auditorium.

Ohio State Dental Society, seventyfourth annual meeting, Neil House, Columbus, Ohio, November 6-8.

Louisiana State Dental Society, sixtieth annual meeting, Monroe, Louisiana, April 18-20, 1940.

Minnesota Dental Association, annual meeting, St. Paul Auditorium, St. Paul, Minnesota, February 27-29, 1940

Greater Philadelphia Society, annual meeting, Benjamin Franklin Hotel, Philadelphia, January 30-February 2, 1940.

Chicago Dental Society, midwinter meeting, Stevens Hotel, Chicago, February 12-15, 1940.

STATE BOARD EXAMINATIONS

New Jersey State Board of Dental Examiners, annual examinations, December 11-16, inclusive. Complete information may be had from the Secretary, Doctor Walter A. Wilson, 148 West State Street, Trenton, New Jersey.

California State Board of Dental Examiners, annual examinations, commencing December 4, College of Physicians & Surgeons, San Francisco, California. For information write to Doctor Kenneth Nesbitt, State Building Annex, San Francisco.

critical tests was the only accepted final reason for the release of this unusual product to the dental market.

The Weber "Zenith" Chair combines smooth, quiet, faultless operation with ideal operating convenience. It is attractive in appearance to a degree not heretofore embodied in any other similar product. The mechanism is guaranteed to be trouble-proof, embodying such electrical and hydraulic lift principles as have been thoroughly proven in other fields made applicable to this product after careful and exhaustive research. The lifting movement is effected by means of a rotary type high pressure pump which forces the oil into the elevating and sustaining cylinder in an amazingly noiseless way. The range of the Chair is from low position of 1634" to high position of 3378", a travel range of 1714" accomplished noiselessly in 12 seconds. The Chair may be instantly stopped in any position by releasing the foot switch mechanism.

The lowering of the Chair is by gravity and employs the same principle as in the long tried and proven foot pump hydraulic chair. The Chair may be stopped at any height instantaneously without jar by releasing the electrical connection by means of the footcontrol. The lowering is done smoothly. In the low position, the Chair settles into a cushion of oil in a way never before accomplished in this type of chair construction.

The superstructure of the "Zenith" Chair is the same as the popular Weber Model "F" Chair.

In every detail, the "Zenith" Chair typifies the finest accomplishment in dental equipment engineering and precision manufacturing. It is indeed a fitting fulfillment of the Weber Company's aim to produce the finest Motor Chair ever offered the dental profession. A brief investigation of this marvelous product will verify every claim made for it. The liberal Weber budget plan of deferred payments applies to this as to all other Weber products.

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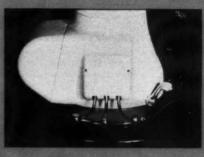
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One of the outstanding features of the "Zenith" is its simplicity in construction. No intricate electrical devices are employed. When the Chair has reached its top position, pressure from the centrifugal pump is automatically released by means of simple by-pass valves. Even if the motor is kept in operation when the Chair reaches its maximum height, no pressure is exerted upon the raising mechanism. The motor-hydraulic unit is readily accessible by removing the gracefully designed cover. All electrical parts are readily accessible. The housing which reaches the motor and pump does not extend beyond the base rim. Thus the Tenith" occupies the same floor area as a foot pump chair and will in no way interfere with the conventional location of unit or pedestal cuspidor.

Note how location of motor and pump on left of Chair base clears the standard sat frame and the conventional foot board support. Ample rotation of upper structure on base is provided.



Mounted on the "Zenith" base is the Weber Model "F" superstructure, with compensating arms, an individual Weber Chair characteristic, which prevent the patient from sliding down in the chair, the form-fitting backrest which automatically adjusts itself to the patient's contour and posture, and the Weber improved back locks and headrest locks. The seat, back and headrest are covered with genuine leather. The Model "F" provides the ultimate in patient relaxation and operating convenience.



The elevating and lowering controls are easily accessible from either side of the Chair. The right or left lever as illustrated control the elevating motion. The center lever is for lowering. The elevating mechanism employs the well-known oil hydraulic principle, the dependability of which has been thoroughly proved in innumerable applications on industrial lifting devices. The elevating mechanism is simple in construction, and positive in action—once adjusted the Chair will remain in position indefinitely. The current consumption is extremely low. The ½th H.P. motor in operation draws less than 4 amperes.

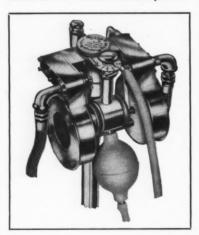




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